

Fact Sheet: Primary Three-Class Antiretroviral-Resistant HIV (3DCR HIV) Infection

Q: What is Three-Class Antiretroviral-Resistant HIV?

A highly resistant strain of human immunodeficiency virus (HIV) has been diagnosed for the first time in a New York City resident who had not previously undergone antiviral drug treatment, the Department of Health and Mental Hygiene (DOHMH) announced today. The strain of three-class antiretroviral-resistant HIV (3DCR HIV), does not respond to three classes of anti-retroviral medication. Because it does not respond to the most commonly used antiretroviral drugs, treatment is much more difficult. In addition, this strain of the virus appears to rapidly progress and may shorten the interval between HIV infection and the onset of AIDS.

Q: To which anti-viral drugs is this HIV strain resistant?

Strains with 3DCR HIV are resistant to the three of the four types of antiviral drugs – nucleoside reverse transcriptase inhibitors, non-nucleoside reverse transcriptase inhibitors, and protease inhibitors, that, in combination, are most commonly used to treat HIV infection.

Q: Why is this case of such great concern?

While drug resistance is increasingly common among people who have been treated for HIV, 3DCR HIV in a previously untreated person is extremely rare, and the combination of this pattern of drug resistance and rapid progression to AIDS has not previously been seen. In this case there appears to have been rapid progression to AIDS. Usually, AIDS occurs more than ten years after infection with HIV. In this case, the onset of AIDS appears to have occurred within two to three months, and at most 20 months, after HIV infection.

Q: When did the Health Department find out about this case?

The case is a man who reported multiple male sex partners and unprotected anal intercourse, often while using crystal methamphetamine (crystal meth). He was first diagnosed with HIV in December 2004, with the diagnosis of 3DCR HIV made shortly thereafter. The patient has developed AIDS and is currently undergoing treatment.

Q: If this is a 3-drug resistant strain, what kind of treatment is this person receiving?

The patient's virus showed susceptibility to a recently approved drug in a new class of antiretroviral medications—the fusion inhibitors. This drug is being used in combination with other anti-HIV medications.

Q: Why is this different from other strains of HIV?

This strain has the ability to use two different sites to bind to T-cells (the target cells for HIV infection), thus depleting the T-cell population more rapidly than usual. At the same time, its resistance to all three of the most commonly used antiretroviral drug classes limits treatment options.

Q: What does it mean that this strain of HIV rapidly progresses to AIDS?

It rapidly depletes the immune system, making the patient vulnerable to opportunistic infections.

Q: How do I find out if I have HIV?

Free, confidential STD exams and treatment, and confidential or anonymous HIV testing are available at Health Department clinics throughout New York City. Health insurance, proof of citizenship and/or parental consent are not required to receive these services. For a list of clinics and hours, please call **311** or visit <http://www.nyc.gov/health>.

Q: How do I find out if I have this strain of HIV?

If you learn that you are infected with HIV, your doctor can order tests that show whether your virus is resistant to antiretroviral drugs. The Health Department is now recommending that doctors order resistance testing for all persons newly diagnosed with HIV infection.

Q: How can I protect myself against this strain of HIV?

Everything that you do to protect yourself against HIV should work against this particular strain of HIV.

The only way to completely avoid HIV is by not having sex and not sharing needles and “works.”

If you are sexually active, protect yourself and others. Use a latex or polyurethane condom every time you have sex (vaginal, anal and oral sex). All people at risk for HIV should be tested regularly, especially sexually active men who have sex with men, and their sex partners; injection drug users and their sex partners; Sex workers and their sex partners; anyone diagnosed with a sexually transmitted infection; persons with multiple sex partners.

DO ask; DO tell: Discuss HIV with every partner. Learn your HIV status. Protect yourself from HIV, and protect others from getting it if you have it. **DON'T PASS IT ON!**

Q: What should I expect from my doctor?

This case along with rising syphilis rates and recent reports of lymphogranuloma venereum (LGV) in HIV+ men who have sex with men (MSM) reflects a high level of unsafe sex, often coupled with drug use, in the MSM community.

Doctors should offer HIV testing to everybody. Doctors should ensure that partners are identified, notified and tested. Substance abuse, including methamphetamine and cocaine use, is associated with increased sexual risk taking. Doctors should counsel HIV-infected and uninfected men at risk to reduce unsafe sexual behavior and address drug use and mental health problems. There is an urgent need to improve adherence among patients receiving Highly Active Anti-Retroviral Therapy (HAART) in order to prevent further development and spread of drug-resistant HIV. Adherence improves with simpler regimens, housing support, mental health services, and drug and alcohol treatment.

Patients with flu-like symptoms may actually be in the early stages of HIV-infection. This is called acute retroviral syndrome. Many of these patients will still be antibody-negative. It is imperative that doctors order viral load testing on antibody-negative persons with symptoms of flu and risk factors for HIV.

Doctors and patients who need help with notifying partners should call the Contact Notification Assistance Program (CNAP) of the Department of Health. Dial 3-1-1, or call 212-693-1419. CNAP contacts partners confidentially, and does not ever reveal the name of the original patient.